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THE DENTAL DIGEST

FEBRUARY, 1939

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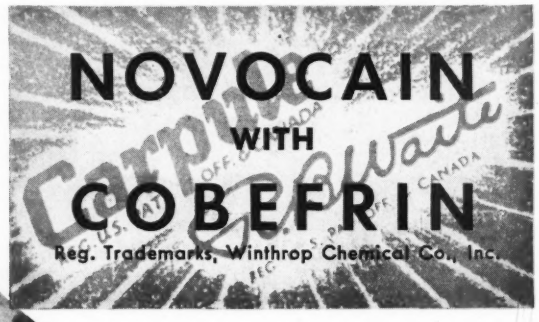

About Our CONTRIBUTORS

TRIM HOUSTON (University of Tennessee, 1893-1894; graduate work in 1913; Vanderbilt University 1907 and 1910; graduate work in 1919, Northwestern University) was a lecturer for three years (1909-1912) at Baylor University College of Dentistry. Through the years, as a general practitioner, Doctor Houston has been particularly interested in the subject of syphilis. In publishing this article by Doctor Houston and the table on syphilis which accompanies it, THE DENTAL DIGEST is continuing its policy of presenting fundamental information on medical subjects with a bearing on dentistry. It is not our intention that dentists should treat diseases calling for the attention of a physician. It is our hope that dentists will grow increasingly alert to their opportunities to serve as a first line defense, to recognize pathologic conditions when they see them, and thus properly direct their patients.

•

JOSEPH S. LANDA (D.D.S., New York University College of Dentistry, 1925) wrote for this magazine in May, 1935, on THE IMPORTANCE OF PHONETICS IN FULL DENTURE PROSTHESIS. This article, presented in the form of an exhibit by Doctor Landa, was awarded Honorable Mention, Class A, in the Scientific Exhibits at the American Dental Association. The problem of burning mouth has long been a bete noire to dentists. Instead of regarding this disorder as a strictly local annoyance, Doctor Landa sees the disturbance in its medical relation, as an oral manifestation of general biologic change.

•

A. LAURENCE DUNN (A.B., University of California, 1917; D.D.S., University of Southern California, 1923) makes his first appearance in these pages as an author but his second as a photographer. In December 1936, Doctor Dunn prepared the photography for an article on MODIFIED FIXED BRIDGEWORK, written for us by Doctor E. D. Shooshan of Pasadena, California. He is particularly interested in the problems of visibility and transillumination in dentistry. In his article appearing in this issue, A SAFE TRANSITIONAL PARTIAL DENTURE, readers will note an editorial innovation: the word "transitional" supplants the word "temporary" because the terminology is more accurate. Another editorial hope will be fulfilled when a better word is found for "permanent" as applied to dental restorations.

•

FRANK HERBERT BIMROSE (D.D.S., 1898, Northwestern University Dental School) presents in this issue an important contribution toward the accomplishment of asepsis in dentistry. Dentists have waited too long for a satisfactory method of maintaining sterility of the dental handpiece. The tests made at the University of Illinois bacteriologic department under Doctor Robert G. Kesel would seem to indicate that the solution has been found.

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Syphilis As Observed by the Dentist

TRIM HOUSTON, Corsicana, Texas

WE KNOW WHAT SYPHILIS is and fully appreciate its communicability and its seriousness. As an indication of its prevalence, we accept the statement that in the United States fully 10 per cent of hospital patients give a positive Wassermann reaction. We know that every organ and tissue of the body, not only in its development but in its functioning, may be affected by this disease. We know that syphilis may simulate almost any other disease. We know that the patient may be ignorant of his infection because the disease can be transmitted so easily and unknowingly and because its progress is so insidious.

With all this awareness, dentists too generally ignore the possible existence of syphilis in their daily routine. Unfortunately the average patient feels that the dentist's only interest in him should be to keep his mouth comfortable, presentable, and usable. If the dentist, therefore, should suspect any syphilitic infection, acquired or congenital, the safe procedure is to communicate with the patient's physician and turn that phase of the case over to him.

Symptoms

The dentist should take note of all that he may see, feel, and smell. There are many ways in which he can give the service that he should to patients with syphilis. In syphilis there is often found:

1. A peculiar body odor.
2. Sticky and greasy skin.
3. Thin, dirty, dry, mouse-colored hair.

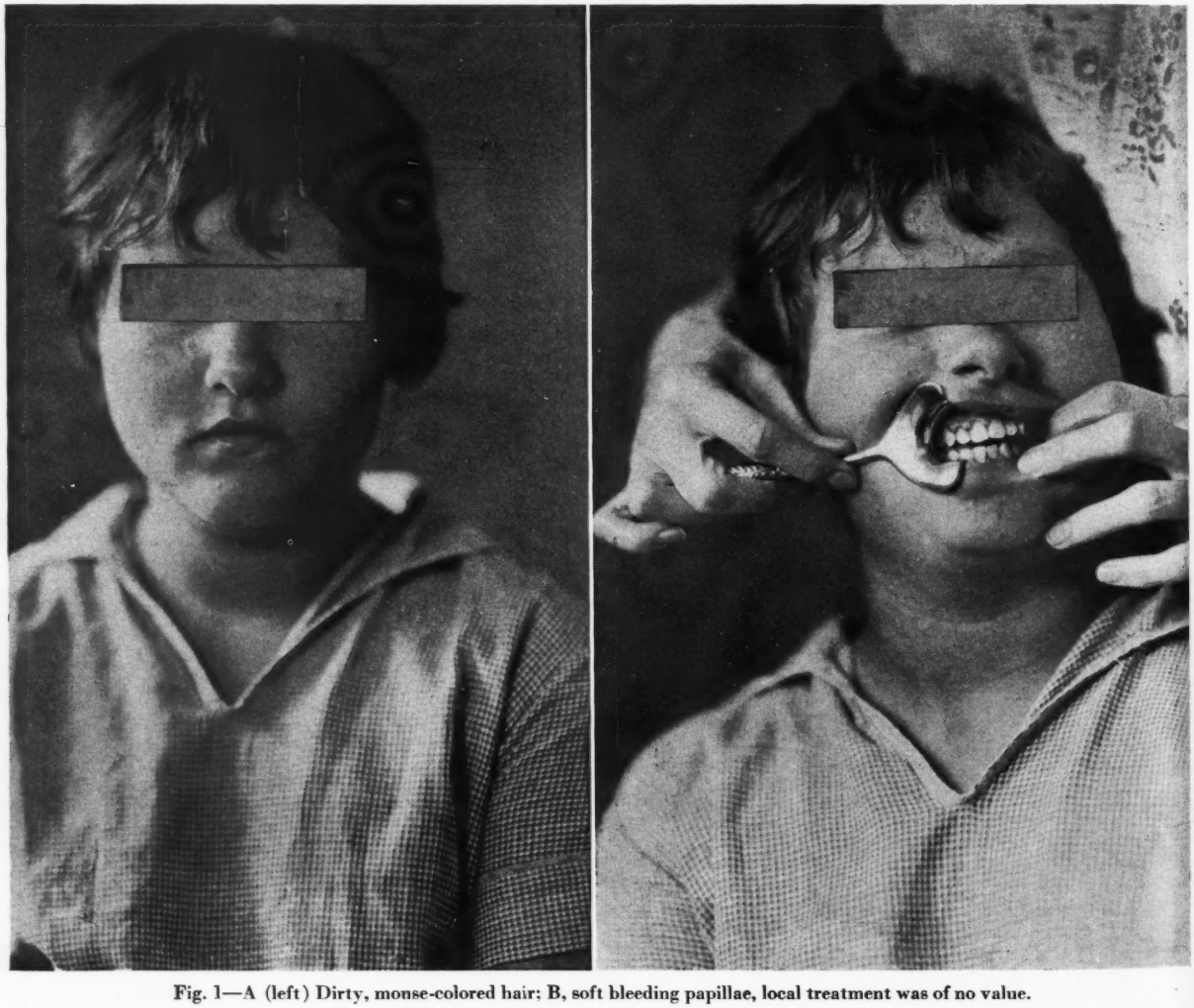

Fig. 1—A (left) Dirty, monse-colored hair; B, soft bleeding papillae, local treatment was of no value.

Fig. 2—Warty excrescences of gums, face, and hands. Iodides were effective.

Fig. 3—A, (left) Faint lines radiating from mouth; painless scabs of old sores on face; B, After two months' antisyphilitic treatment.

SYPHILIS*

SPECIFIC DIAGNOSTIC SIGNS FOR THE DENTIST

SYMPTOMS	LOCATION	ACTION	STAGE	APPEARANCE	RECOMMENDATIONS
Mucous patches	Mucous membranes Quasi-mucous membranes Skin (moist parts) Mouth: entire fauces; palate; sides of tongue	Not painful or inconvenient; therefore, often ignored	Secondary	General dull red erythema Resemble papules on cutaneous surfaces Modified by heat, moisture, irritation	
Erythema					
Iritis Cornea	Eyes	Pain slight Photophobia	Secondary Late syphilis		Diagnosis belongs to occulist
Interstitial keratitis	Begins in one; soon in both				
Alopecia	Head (scalp) Eyebrows Eyelashes	Roots of hair affected	At time of appearance of secondary lesions and sore throat	Baldness Absence of lesions on scalp except papules Dryness of scalp "Polka-dot" haircut	
Gumma	Throat Hard palate		Tertiary		
Interstitial gingivitis or Pyorrhea alveolaris	Lower cuspids spreading to incisors and first bicuspids	May represent a symptom of other systemic disturbance			Possible co-existing presence of syphilis should be determined NOTE: In the known or suspected presence of syphilis an extra set of instruments should be used; ordinary sterilization is not sufficient.
Nails		Absorption Inflammation at roots Swelling Discoloration (coppery)		Fin-like—broad at free end; opaque Ridged; fissured Thickened; brittle Hyperemic at matrix Clubbed fingers	
Gummatous dermatitis					
TEETH					
Hutchinsonian Teeth (hypoplasia)	Upper central incisors (permanent)		Latent	Dwarfed breadth and length Rounded and beak-like Enamel deficient in middle of crescentic notch on anterior surface Teeth decline toward one another or may diverge; seldom large enough to touch both neighbors	NOTE: Should not be confused with normal serrated teeth. Present only in minority of cases; not diagnostic in absence of other symptoms.
Delayed eruption of incisors Malpositions Early decay of deciduous teeth					Similar defects occur in non-syphilitic children

*Prepared from accepted sources by the Editorial Staff of THE DENTAL DIGEST.

SPECIFIC DIAGNOSTIC SIGNS FOR THE DENTIST—Continued

SYMPTOMS	LOCATION	ACTION	STAGE	APPEARANCE	RECOMMENDATIONS
Mulberry first molars (hypoplasia)					
Hypoplasia of second deciduous molar	Crown of proximal tooth, occlusal surface	Pitting Effect of early nutritional disturbance			
Lower incisors	Permanent	Pegging			
RHAGADES	Lips	Evidence of previous syphilitic activity		Radial scars	
INTERSTITIAL KERATITIS	Cornea				

NOTE: JUST AS THE PRESENCE OF A PRIMARY SORE WOULD BE CONCLUSIVE EVIDENCE OF ACQUIRED SYPHILIS, THE PRESENCE OF HUTCHINSONIAN TEETH, SCARS AROUND THE MOUTH, AND INTERSTITIAL KERATITIS WOULD ENABLE ONE TO DIAGNOSE CONGENITAL SYPHILIS. The presence of all three pathognomonic stigmata indicates the need for a complete examination including blood tests.

CHIEF SYMPTOMS IN CONGENITAL OR HEREDITARY SYPHILIS

INFANTILE HEREDOSYPHILIS	LATE HEREDITARY SYPHILIS			
SUMMARY	MAJOR SIGNS	SECONDARY SIGNS	MINOR SIGNS	CONTROVERSIAL
Eruptions Snuffles Hacking of lips Rhagades Enlarged spleen Cracked and aphonic cry Osteochondritis Chondro-epiphysitis Osteomyelitis Epitrochlear adenopathy Saddle nose deformity Pulmonary, hepatic and marasmic symptoms Eye lesions Fever Nephritis	Positive Blood Wassermann Interstitial keratitis Hutchinsonian incisors Mulberry molars Eighth nerve deafness Saber tibiae Osteitis Periostitis Simple hypertrophy Osteitis of nasal septum Snuffles Saddle bridge Epiphysitis Osteochrondritis Splenomegaly Rhagades Scars Dactylitis (early) Facies	Frontal bosses Aplasia of incisor teeth Scaphoid scapula Enlargement inner third of clavicles Epitrochlear adenopathy (early) High, narrow palatine arch Extreme nervous irritability	Venous ectasia Hypertrichosis Ulnar deviation of middle finger Constitutional subnormality Backwardness Hypertrophic frontal suture Cranio-tabes Bilateral dacryocystitis	Alopecia areata Knock-Knee Urticaria Asthma

MISCELLANEOUS COMPLAINTS IN CHILDREN

GENERAL	EAR, NOSE, THROAT	NERVOUS	SECOND DENTITION (130 Cases)	SYPHILIDS	STIGMATA
Arthritis Abdominal Physically retarded Gait Nephritis Hematuria Asthenia Feminism Alopecia Esophageal obstruction Osteomyelitis Lymph disorders	Deafness Nasal obstruction Cervical glands Perforated palate Nasal deformity Nasal discharge Sore throat	Convulsions Mental disorders Paralysis Nervousness	Normal 30% Syphilitic incisors 28.5% Suggestive incisors 4% Mulberry molars 3% Pegging 10% Aplasia 10% Serrated 8% Dystrophic 2% Unclassified 15% NOTE: GENERAL INCIDENCE IN CHILDREN IN UNITED STATES AROUND 5%.	Positive Wassermann reaction Eruptive lesions (skin mucous membrane) Keratitis Splenomegaly Osteitis: septum, tibia, clavicle, dactylitis Chrondro-epiphysitis Periostitis Bilateral hydrarthrosis Dacryosistitis Rhagades Gumma Visceral syphilis Neurosyphilis	Facies Dental dystrophies Age development ratio disturbed Delayed dentition Delayed menstruation Oversize and undersize Giantism Dwarfism Bosses Scapulae Tibiae Abnormally high, arched palate Ulnar deviation Venous extasia Hypertrichosis

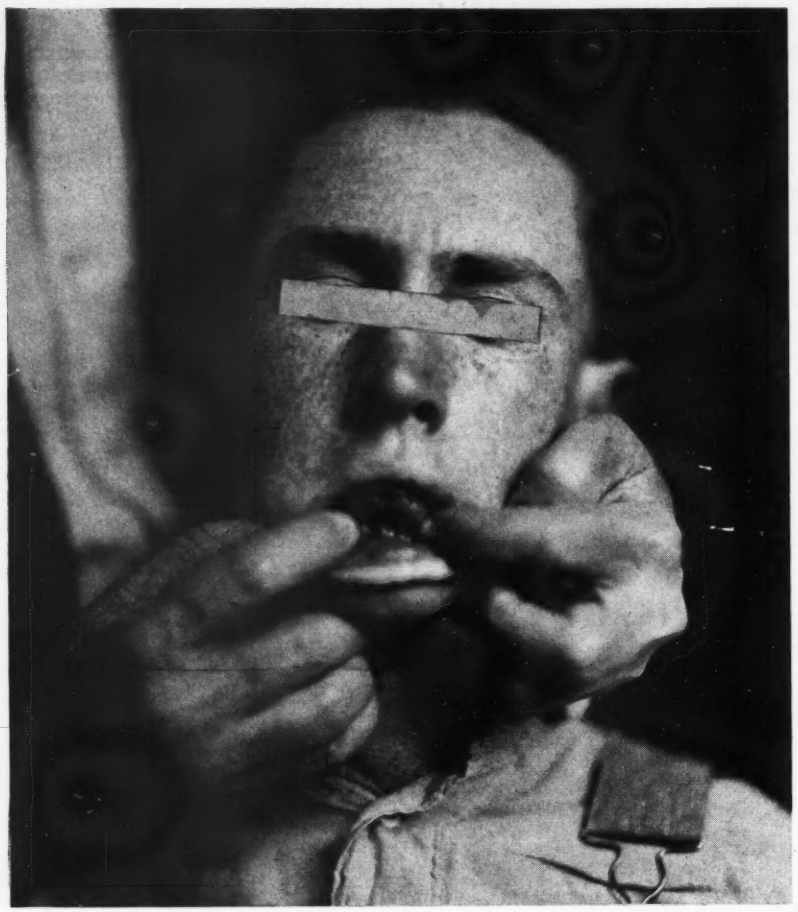

Fig. 4—Punched-out, shiny depressions on face; excessive growth of gum tissue. Iodides were effective.

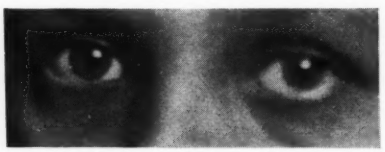

Fig. 5—Typical glassy eyes of syphilitic children.

4. Punched-out, shiny splotches on the side of the face and neck.

5. Dark brown, thick-scabbed, painless old sores which may be present on the face, neck, and hands.

6. A destroyed nasal septum and the saddle nose deformity.

7. Short, spoon-shaped, and cracked nails.

8. Faint scars radiating from the corners of the mouth.

9. Warty excrescences on the gums, hands, or face.

10. Bursae on the forehead.

11. Chronically cracked palms of the hands and the corners of the mouth.

12. Specific oral manifestations, found in

a) the Hutchinsonian upper centrals;

b) the mulberry first molars;

c) poorly developed lower central incisors;

d) the straight-sided or screwdriver, spaced, upper centrals;

e) the poorly developed or excessively developed cusps of the bicuspids and molars;

f) the excessive, dense gum tissue, especially around the lower incisors;

g) or the extreme lack of development and lack of resistance on the part of the gums and alveolus;

h) extremely soft, easily bleeding papillae that refuse to respond to routine local treatment;

i) the leukoplakias;

j) the geographic and the deep-fissured tongue.

13. The brawny soft palate and fauces, the gummas and the late secondary ulcers, the chancres and the mucous patches, which are the most dangerous to both operator and patient from an infective standpoint—these, dentists seldom see.

Any of the symptoms mentioned should suggest syphilis to the dentist when he encounters them.

The accompanying illustrations show children with congenital syphilis. In the diagnosis of such cases the serologic tests are of little value as most of them show negative reactions. Only the therapeutic test, made by the patient's physician, can be considered reliable. If the diagnosis of syphilis is confirmed, only those needing to know should be informed; if it is necessary to explain treatment to others, it can be said that a tonic is being given.

Box 279.

Burning Mouth and Dry Mouth: Prosthodontist's View

JOSEPH S. LANDA, D.D.S., New York

BURNING MOUTH (stomodynia and glossodynia) and dryness of the mouth (xerostomia) are two symptoms which are so frequently concurrent that they have come to be associated as a clinical syndrome. This distressing condition concerns both physicians and dentists. Little is known concerning the etiology or pathology of burning and dryness of the mouth; consequently, the treatment of this syndrome has not yet been placed on a sound basis.

Is this disease a purely imaginary disease? Is it an imagination-created disease; that is, one that is originally mental in character, but becomes real as a result of intense neurosis? Or is this mouth-burning a definite organic disease? I believe that all three types of etiologic factors contribute to the causation of the symptom-complex known as mouth-burning. Which of the three factors is predominant, and to what extent, remains to be answered by future investigations.

Symptoms

Patients whom I have had the opportunity of observing within the last nine years have many symptoms varying in degree of severity.

Discomfort from Burning—In some instances, patients complained of a mild discomfort, more or less continuous, resulting from a burning of the oral mucosa. This burning sensation was mostly concentrated in the anterior half of the palate and on the inner surface of the upper lip adjacent to the frenum labium superium oris. Occasionally, this burning would also radiate into the internal surface of one or both cheeks. It also manifested itself at times in conjunction with a metallic and bitter taste in the mouth which persisted even during the ingestion of sweet food.

Loss of Appetite—These patients complained that they had lost all taste for food and that they ate, not because they anticipated any enjoyment from their meal, but because they felt they were duty bound to do so.

Dryness—About half the number of those studied were annoyed by a feeling of dryness of the oral mucosa associated with the burning of the mouth.

Dry, Glazed Appearance of Mucosa: Clinical examination substantiated the complaints, the mucous membrane being dry and sometimes glazed in appearance.

Decreased Salivary Flow: Although complete cessation of the flow of saliva could not be established, there was a definite and considerable diminution of the flow of saliva.

Lack of Thirst: There was no thirst for water despite the xerostomia. It was found that the daily water consumption was less than normal.

Wet Handkerchief Used to Moisten Lips: Some of these patients would frequently interrupt their story to moisten their lips with a wet handkerchief. In some instances, this moistening of the lips was performed at such frequent intervals as to become conspicuous.

Group 1: Mild Mouth Burning

There were twelve patients in the first group—all women, ranging in age from 45 to 64 years, with an average of about 53. Five of the twelve were wearing full upper and partial lower dentures. The other seven were wearing full upper and full lower dentures. All the patients in this group, whom I classify as mild burning cases, attributed the disorder to the particular material of which their artificial dentures were constructed. They were not concerned with the adaptation and proper fit of those dentures. In most of these cases the dentures were carried around in hand bags rather than worn in the mouth. Those patients who had an upper gold denture asked to have it remade in vulcanite. Those that had vulcanite dentures would insist on changing to gold with the hope that gold would not burn. This applied likewise to the newer materials that are being used in denture prosthesis. Some of these patients said that their dentures were remade several times of different materials; they would get relief for a few days and then the burning would become worse than with the old dentures.

Effect of Dentures—A thorough clinical examination revealed that all the dentures were ill-fitting and poorly articulated. The outline of the bearing area was poor; the occlusion was still poorer. Areas that should have been relieved were not relieved and areas that did not need relief were relieved. The outline and distribution of the clasps for the partial dentures were mechanically and biomechanically incorrect.

Influence of Menopause — It is worth repeating that these patients were women, and all were either in the transition stage before menopause or the menopause had occurred before the burning sensation had begun. The history in each of these cases revealed that the transition stage or the first few years of menopause had been rather painful. These stories not only were offered by the patients themselves, but were corroborated by members of their families. In most instances, the patients were suffering from mental depression and irritability. Most of them were undernourished, not because of lack of food, but either because they did not know what a proper diet should consist of, or simply because they would not pay any attention to food.

Two of the full denture wearers of this group had had extensive alveolectomies performed prior to the construction of the dentures. One of them related that after the alveolectomy was performed, the right side of the upper lip became completely numb for a period of three months, only to

be followed by a burning in the same area soon after the completion of the dentures. The other patient asserted that burning of the mouth set in soon after alveolectomy, but that her dentist promised her that this burning would disappear as soon as she wore her dentures; however, a year has elapsed and the burning persists.

None of these patients had suffered from diabetes or syphilis at any time. Most of them inquired, from time to time, whether this burning condition might not lead to cancer. One reassurance was seldom sufficient to set the patients at ease in that respect.

Group 2: Severe Mouth Burning

The second group consists of what I would call severe cases of mouth burning. The seven patients in this group did not localize the burning to one particular area. They would state that the burning was diffused over the entire oral cavity, like "fire burning in the mouth."

In one case, a woman aged 35, the distress was so great that the patient threatened to commit suicide unless the burning was relieved.

Another woman, aged 42, complained of a severe burning of the entire palate, transmitted at times into the tongue. She related that the menopause had appeared when she was 36 years of age, and that since then she had been nervous and distressed. The patient had twelve lower natural teeth present and a full upper artificial denture. She presented with five upper dentures of different materials constructed by the same dentist during a period of fourteen months. She asserted that with none of them could she masticate even the smallest particle of food. Her first denture had caused her so much pain in the throat that she was afraid of developing cancer of that area.

All seven representatives of the second group exhibited extremely severe and distressing symptoms. In six of these seven cases cancerophobia was a cardinal symptom. Severe mental depression and melancholia were manifest in all these cases. Only two of the seven cases were not wearers of artificial dentures. The two youngest patients of this group, whose cases have been described, were 35 and 42 years of age; the other five ranged in age between 48 and 66. The response to treatment in Group 2 was poor as compared with that of Group 1. Three of the seven responded well to treatment and have improved considerably. In two there is a partial improvement, and the remaining two have been growing worse.

GENERAL MENOPAUSAL SYMPTOMS*

1. Disturbances of Involuntary Nervous System
   - (a) Irritability of the sympathetic — hot flashes; sudden perspiration; palpitation; migrainous conditions with vomiting, teichopsia, scotomata, headache, feeling of weight; spasm of sphincters along alimentary tract; irritability of urinary sphincters; true climacteric hypertension; acrocyanosis.
   - (b) Depression of the parasympathetic
2. Nervous Symptoms of Uncertain Mechanism
   - (a) Vertigo
   - (b) Tinnitus
   - (c) Paresthesias
   - (d) Sleeplessness
   - (e) Anxiety states (sometimes definite mental disorder, influenced by heredity)
   - (f) Epileptic seizures
3. Changes in Genitalia
   - (a) Premenopausal bleeding and hemorrhage
   - (b) Anatomic changes
   - (c) Glandulocystic hyperplasia
   - (d) Presence of benign or malignant neoplasm
   - (e) Hyperthyroidism
4. Joint Disorders (Menopausal Arthritis)
5. Allergic Manifestations
6. Metabolic Disorders
   - (a) Hyperthyroidism followed by hypothryroidism
   - (b) Adiposity
   - (c) Constipation
   - (d) Myxedema
7. Changes in the Respiratory Tract (Dry Nasopharyngitis)
8. Changes in the Skin
   - (a) Generalized pruritis
   - (b) Decubitus
   - (c) Rosacea
   - (d) Follicular acne
   - (e) Loss of hair
   - (f) Hirsuties (at sides of upper lip)
   - (g) Atrophic rhinitis
   - (h) Epidermis in general — thinner, less vascular, loss of elastic fibers, loss of sebaceous glandular structures
   - (i) Variety of unclassified skin disorders.

* Prepared from accepted sources by The Editorial Staff of THE DENTAL DIGEST.

Deductions

1. Seventeen of nineteen patients were women. Sixteen of the seventeen were past the stage of menopause. A definite relationship appears to exist between the transitional period in a woman's life and the local manifestation of a general condition which we call burning mouth.

2. These cases of burning mouth and concomitant change of life, associated with nervous depression, irritability, and at times even melancholia tend to show that the so-called pathologic cases of menopause furnish a

fertile soil for local manifestation of disease at the slightest provocation.

3. Most of these patients were denture-wearers, and in most instances these dentures were ill-fitting. It seems reasonable to conclude, therefore, that the disturbance of the circulation caused by traumatic occlusion of artificial dentures may serve, and often does, as the inciting cause of the symptom of burning mouth. Unscientific or complete absence of relief of hard areas and important foramina also tends to disturb the circulation of the blood in the mucosa, and thereby becomes a contributing etiologic factor in this syndrome.

4. In some instances these patients exhibited a diminution in the flow of saliva. It may be inferred that there is some relationship existing between the pathologic cases of menopause and diminished activity of the salivary glands. In turn, the artificial dentures in function, exerting constant friction upon an insufficiently lubricated mucosa, are apt to cause symptoms of burning of the mucous membrane.

5. Diabetes as a pathogenetic factor must be ruled out, inasmuch as none of these patients suffered from diabetes and many diabetic patients whom I have on record are wearing artificial dentures without any of the symptoms under discussion.

6. In many instances, the patients were found to be lacking in a properly balanced diet, and were undernourished. This indicates that there is some relationship between lack of certain vitamins in the diet and burning mouth. To be sure, in this, as well as in other problems, we are likely to confuse cause and effect: It is possible that insomnia and poor nutrition are the effect of burning mouth rather than the cause of it.

7. The onset of the symptoms of burning, in several cases, soon after an extensive alveolectomy or the removal of impacted teeth, or a combination of both suggests that extensive surgery in the oral cavity may also be a contributing factor. Whether the mental shock of the operation on a nervous patient or the actual mechanical injury to certain nerves and blood vessels is responsible for this condition may be debatable; nevertheless, after an extensive operation, numbness appeared in certain areas and this numbness changed into burning when the dentures were constructed.

8. Changing the materials of which the dentures were constructed resulted in no lasting improvement. The materials used in denture prosthesis apparently have nothing to do with burning mouth.

9. Cancerophobia, a frequent ally of these conditions, is, in my opinion, an effect rather than a cause of the disease. Indeed, it would be logical to assume that a nervous patient after the age of 50 (and most lay persons believe that to be the cancer period), suffering from constant burning of the mouth, would be likely to imagine that she has a cancer.

10. The fear of cancer tends to make the patient more and more melancholic and may indirectly aggravate the pre-existing local condition.

Report of Cases

CASE 1—Mrs. B., aged 49, complained of continuous severe burning of the mouth and tongue. She had had an extensive alveolectomy performed in the upper jaw from tuberosity to tuberosity prior to the construction of a full upper and partial lower denture. She slept poorly and usually awoke three or four times during the night suffering from palpitation of the heart, which seemed to her unbearable. She was mostly preoccupied with the fact that neither her husband nor her children cared for her, and was under the impression that they impatiently awaited her death. The patient believed that the cause of her heart palpitation was to be found in her loneliness. Every time she would think of how much she did for her husband and children and how little they cared for her now, she would get an attack of palpitation of the heart.

When the dentist first constructed the dentures, the patient could not express her gratitude in any other way except by jumping on his neck and kissing him. A few weeks later, she was stretched on the floor of his office, yelling hysterically that she would not leave until he took that terrible mouth-burning away from her. At every subsequent visit, she asserted that she was certain she had cancer of the mouth, but nobody cared what happened to her.

The patient is obese. She is still going from doctor to doctor. It is three and one-half years since the menopause set in, but her condition is growing worse rather than better. The family physician finds the patient's heart to be in good condition.

CASE 2—Mrs. G., aged 42, suffered from a severe burning of the mouth for a period of eight months. The menopause had begun at the age of 41. The anterior third of the palate and the upper lip on the left side were the seat of the burning sensation. The left upper central, lateral, and cuspid were missing. The patient said that a specialist removed these teeth because of an abscess in that region. The region appeared perfectly normal; nevertheless, the patient was certain that a cancer was growing in that area.

Eight months after the onset of the mouth-burning the patient began to complain of severe pain resulting from flat arches. She transferred her attention from the dentist to the orthopedist and began to wear orthopedic shoes. Within three months the mouth-burning and also the imaginary cancer disappeared.

CASE 3—Mrs. K., aged 42, reported that the onset of the menopause occurred when she was 36 years old. The patient was underweight and suffered from anorexia and insomnia. Her physician considered the patient's health to be in fair condition except that the percentage of hemoglobin in the blood was a little below normal. The patient constantly spoke of how sorry she was to be such a burden to her lovely husband and children.

Several upper dentures had been constructed. One of them caused a severe irritation of the soft palate because of overextension. This irritation disappeared after the patient removed the denture for two days, but the patient continued to be convinced that she was suffering from cancer of the throat and a mild diffuse burning of the mouth.

Construction of a balanced upper denture; change to a rational diet, and psychotherapy improved the patient's condition considerably.

CASE 4—Mrs. R., aged 54, the mother of four grown children, at the age of 49 began to experience a difficult menopause. Skin eruptions, hot flashes, and extremely profuse sudden attacks of perspiration contributed to her nervousness. Mild but constant burning of the oral mucosa and a bitter, unpleasant metallic taste were her chief complaints.

For a year and a half the patient wore a set of artificial dentures which were poorly articulated and ill-fitting. A new set of balanced dentures were constructed which were satisfactory but the patient continued to complain about the burning mouth. About the same time, however, her daughter eloped with an accomplished young man of another faith. This immediately became the patient's favorite topic of discussion and complaint and she forgot about the burning mouth.

CASE 5—Mrs. F. B., aged 50, had a painful menopause which occurred simultaneously with the development of cancer of the breast. The breast was removed. The patient continued to suffer from vertigo, headaches, ringing ears, and insomnia. She also required artificial dentures but after wearing them only a couple of days, she complained of severe burning of the mouth and tongue which convinced her that she was developing cancer of the mouth.

New balanced dentures were constructed by the patient's son, a recent dental college graduate. This, followed by three

months in the country, produced gradual improvement. The patient is not strong but is getting along satisfactorily.

Treatment

Treatment of burning mouth is by no means hopeless, as some think. The prognosis is favorable in about 75 per cent of the cases. Common sense, sympathetic understanding of the patient, and patience are necessary in the successful management of this disorder. Local treatment, diet, and psychotherapy will usually prove efficacious.

Local Treatment—Local treatment consists, primarily, in remaking the dentures, paying utmost attention to mechanics, esthetics, and phonetics. A patient suffering from this condition needs the highest type of dentures dentistry can produce. There are several cases on record in which the successful treatment of this condition resulted almost entirely from changing ill-fitting dentures to properly constructed and perfectly fitting dentures. No effort should be spared to satisfy the patient. This may appear over-emphasis, until attention is called to patients suffering from mouth-burning whose dentists considered them cranks and neurotics and left them with ill-fitting dentures.

Rinsing the mouth with a solution of tincture of iodine in water (five drops of tincture of iodine to one-half a glass of water) and painting the burning area with a 1 per cent solution of silver nitrate have proved to be of some assistance.

According to Prinz, a solution of 50 per cent glycerin in water flavored with lemon juice aids in relieving both the burning and dry sensation in the oral cavity.

Diet—As stated, many of the patients with mouth-burning look undernourished. An inquiry must be made into the diet. In consultation with the patient's physician the following diet might be prescribed:

Breakfast:

Orange juice, one glass
Cereal
Sweet cream, one-half cup
One egg
Toast, one slice
Butter, sweet: two squares
Milk, one glass

Dinner (Midday):

Meat, one serving (liver, three times a week)
Vegetables, two, cooked
Vegetable salad
Toast, one slice
Butter, two squares
Milk, one glass

Supper:

Fish, one serving
Bread, one slice
Eggs, two
Sweet butter, two squares
Sweet cream, two tablespoonsful
Milk, one glass
Fruit dessert

It is understood that this is not the kind of diet that the patient must adhere to rigidly. It is a foundation diet to which many things may be added and from which some may be eliminated. Sweet cream and butter included in this diet are essential not only because of their vitamin value but because of the stimulating effect they have on the salivary glands. The internal administration of natural or artificial Vichy and the addition of cod liver oil to a well-balanced diet are two measures that are often helpful.

Psychotherapy—No dentist should undertake or continue the treatment of a case unless he is sure of the utmost confidence and cooperation of the patient. On the other hand, a dentist should never refuse treatment as long as he is certain that the patient places utmost faith in him. Because reassurance is important in the treatment of this disorder, absolute confidence of the patient is imperative.

Should cancerophobia be a promiment symptom, as it usually is, it is necessary to enlighten the patient that such fears are not in the least justifiable. It should be explained to the patient that many of her difficulties are due to the menopause, and that time is important in relieving and curing the excessive nervousness caused by a painful menopause. Each case, of course, is to be individualized and treatment prescribed accordingly. It is understood that instances may be encountered in which a patient must be directed to a neurologist. In this connection, it may be added that when systemic imbalance, whether owing to the menopause or nervous upset, is believed to be largely responsible for the symptoms, consultation with the patient's physician may prove to be invaluable. The recent advances in endocrine therapy have made it possible to modify rapidly and favorably the polyglandular and mental disturbance of this transitional period in every woman's life. General improvement will invariably be reflected as well in the relief of the oral cavity.

112 *East Fifty-Fourth Street.*

A Safe Transitional Partial Denture

A. LAURENCE DUNN, A.B., D.D.S.,
Santa Barbara, California

Fig. 1—Original condition.

Fig. 2—Area after extraction.

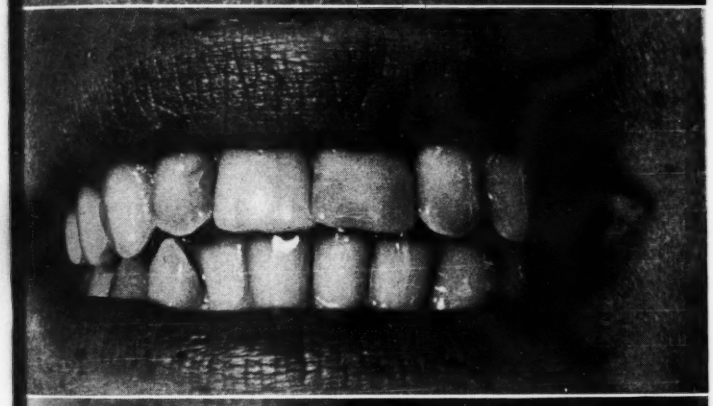

Fig. 3 — Teeth restored with transitional appliance.

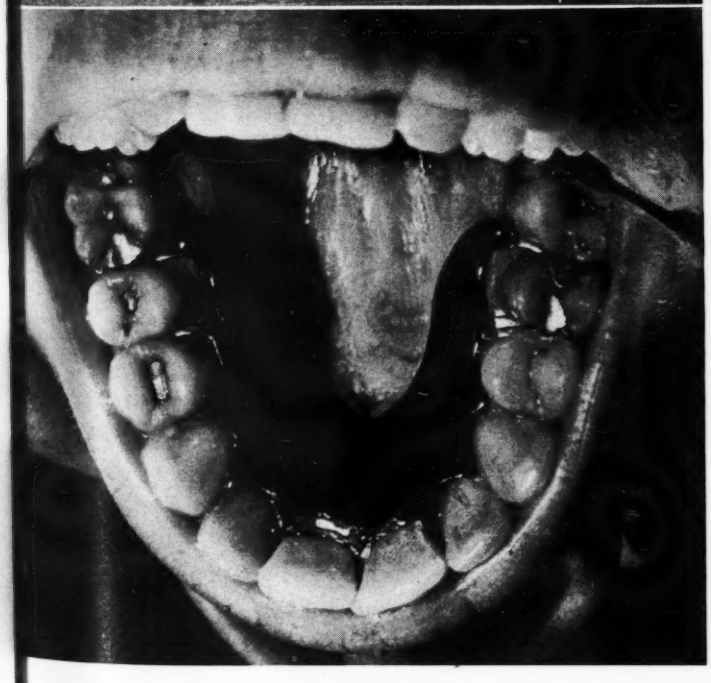

Fig. 4—Palatal view showing how retention is obtained by the embrasure hooks.

RETENTION AND safety can be incorporated in a certain type of transitional appliance. The appliance considered here is well known and widely used, and has been called the "butterfly bridge." It is made to supply an upper anterior tooth, frequently as an immediate restoration.

Lacking retention, the usual appliance lacks safety. Retention, comfort, and safety can be introduced with the addition of embrasure hooks, as shown in the accompanying illustrations.

The technique of construction is briefly illustrated in Figs. 7 through 14. Certain additional refinements of procedure are here presented which were not published[1] previously.

The particular use of embrasure hooks is to provide retention in a mouth in which no posterior teeth are missing and in which the approximal contacts do not permit the use of clasps. Frequently there is encountered a patient with an unbroken arch who has lost or must lose the upper central or lateral incisor, or perhaps a group of two or more teeth. The appliance using embrasure hooks can be worn pending the healing of the gums and the cautious fitting and construction of a fixed bridge; or, it can be worn awaiting the further aging of the proposed abutment teeth. If the anterior tooth has not yet been lost, plans are completed for its removal. Models are made before the extraction. The partial denture is constructed from these models, then fitted to the mouth and seated during the extraction appointment. This technique is known as immediate restoration. A case carried through in such a manner is shown in Figs. 1 through 4. If the tooth has already been lost the technique is exactly the same except that no tooth

[1]Dunn, A. L.: A Safe Temporary Partial Denture, J. A. D. A. 23:96-99 (January) 1936.

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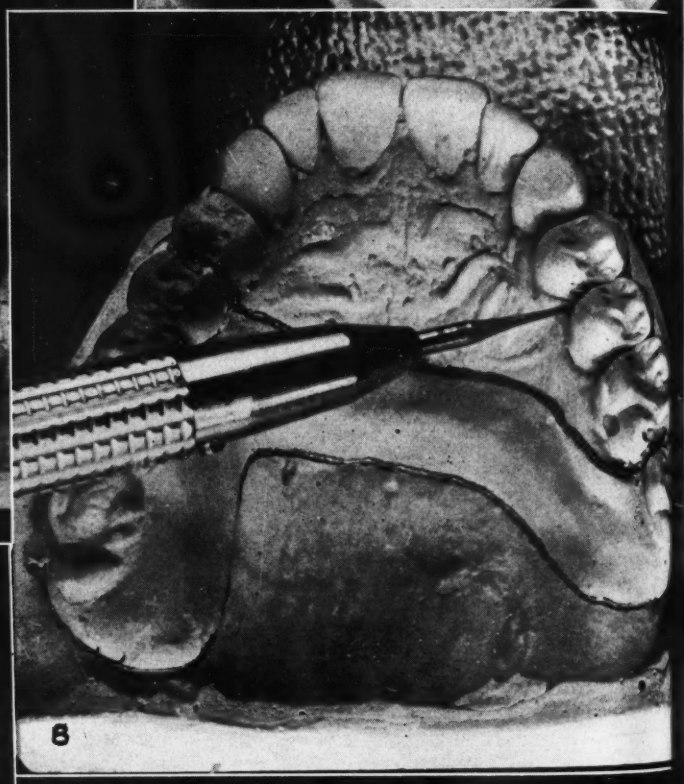
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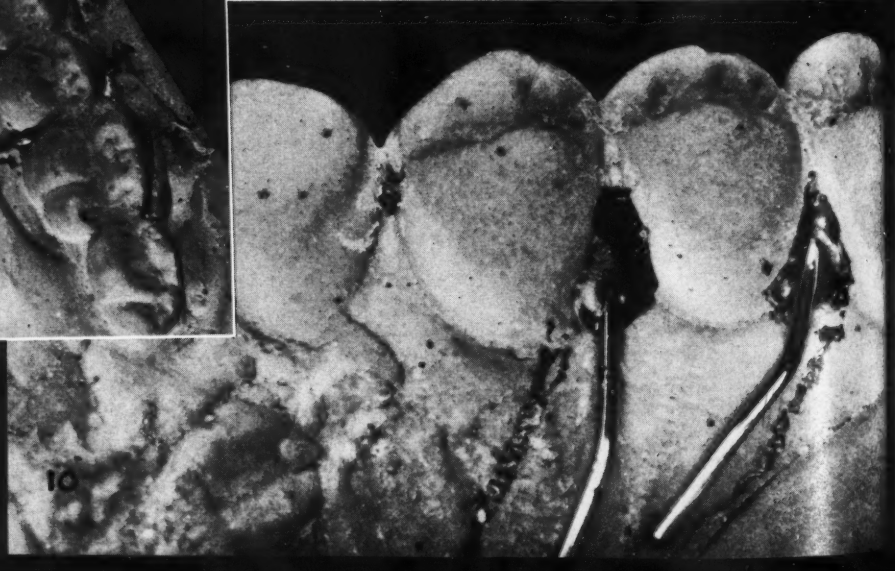
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Figs. 5 and 6—Transitional appliance was worn for three and one-half years in this case, to await drifting of an upper cuspid. Compare final position of cuspid in Fig. 6 with position in Fig. 5, No injury to bicuspids engaged by embrasure hooks or adjacent gingival tissues could be detected on completion of this extended case.

The original high position of the cuspid prevented its use for a fixed bridge abutment. Its descent toward a normal location in the mouth was awaited before such use.

During the months that the transitional partial denture was worn the cuspid continually encroached upon it. To accommodate this slow drifting the distal surface of the porcelain tooth was dressed every two months.

Laboratory Steps:

Fig. 7—Original model.

Fig. 8—Holes drilled in model with a number 2 round bur to a depth of from 2 to 3 mm.

Fig. 9—Wires fitted into holes and cemented with use of a cement tube.

Fig. 10—Wires firmly held in place for waxing and vulcanizing. Each hook is fitted singly.

is cut from the model, as explained later.

Occasionally for one reason or another an appliance may be worn for a few years. It is conceivable that prolonged use may injure the gingiva or cause an etching of the enamel touched by the hooks. I have never observed such a result, however, when the hooks have been fitted as prescribed (Figs. 5 and 6).

Conditions Justifying Prolonged Use of Transitional Appliance

The following conditions may justify the prolonged use of a transitional appliance: (1) The necessity to await drifting of a high upper anterior tooth into normal location (Figs. 5 and 6); (2) supplying of a destroyed or congenitally missing anterior tooth to an orthodontic retainer; (3) the postponement of a fixed bridge construction until determination of the final form of the gingival crest after mutilation; (4) similar postponement until the abutment teeth are properly "seasoned" for their preparation to receive inlays; or (5) postponement for health, financial, or occupational reasons. Ordinarily, the partial denture is worn only a few weeks or until sufficient healing has occurred.

Laboratory Technique

Figs. 7 through 14 show the laboratory steps in the construction of a practical immediate restoration case and its adaptation to the mouth.

Note particularly that no cutting is done in the mouth; all cutting is done exclusively on the model.

The original model, shown in Fig. 7, is first treated as pictured in Fig. 8.

1. Holes are drilled in the model with a number 2 round bur to a depth of from 2 to 3 mm. These holes can best be placed by the dentist, who has studied and planned the case; less exactly, by the technician.

2. Into these holes, wires are fitted and cemented as shown in Fig. 9.

A cement tube (Fig. 9) is especially helpful in introducing the cement exactly as desired. The wires firmly held in place for waxing and vulcanizing are shown in the close-up view of Fig. 10.

3. To prevent injury to the gingiva should the appliance settle, the hooks should be adapted to curve slightly above the gingival crest, then to slope into the interproximal spaces.

Formerly it seemed wiser to fashion a pair of hooks out of one U-shaped piece of wire. The present procedure is to fit each hook singly as in Fig. 10. This is also clearly shown in Fig. 24.

The wires used are of 20 gauge clasp wire or orthodontia wire. If a slight discoloration of the hooks is of little consequence in the transitional appliance, a slender safety pin, an ordinary pin, or a small paper clip can serve in an emergency to supply the metal for these hooks. The safety pin of brass will oxidize the least, and the clip the most. The standard dental wires are the most serviceable. The hooks of brass used in this case were clipped from a small safety pin (Fig. 11) and contoured as shown in the lower part of that illustration. Typical curvatures are here represented and used as charted.

Snug fitting embrasure hooks provide safe retention, but the smaller saddle is the more comfortable. The patient must understand, however, that the appliance must always be kept in adjustment. If it can be dislodged by the tongue, it is too loose, and may be swallowed. The appliance can be adjusted by the dentist through spreading the embrasure hooks. Hooks made with the correct lengths will generally continue to give such a snug adaptation as to require an actual "unhooking" with the patient's thumb nail to remove the denture.

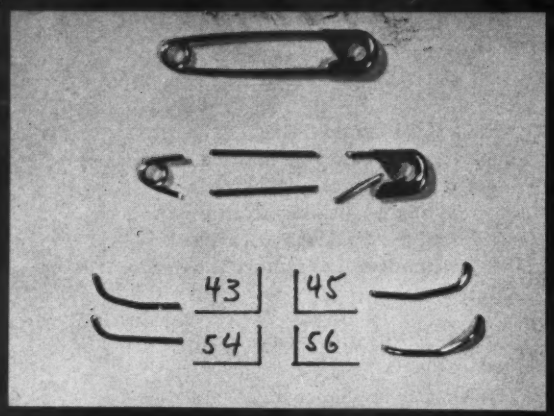
Extraction and Seating of Appliance

With the appliance made and on hand, the extraction may be performed. In Fig. 15 the teeth are shown before extraction of the lateral incisor. The appliance is seated immediately on extraction (Fig. 16).

If difficulty is encountered in getting the case to place, the operator should look first for binding spots where the saddle needs relief from the surfaces of the teeth; then, for embrasure hooks that have been left too long; and last, for excessive contact of the porcelain against the natural teeth. It is better to dress back the saddle boldly than to shorten the embrasure hooks.

When the appliance has snapped to place, the porcelain may be found to extend too far into the socket. Generally 2 mm. of such extension is a good limit at this time. If used intelligently, the appliance will protect rather than injure the socket.

Forewarn the patient that with the shrinkage of the gingiva there may develop an unsightly space at the gum-line, as in Fig. 17. The condition of the socket at this stage is shown in Fig. 18. Warn the patient further that there may be a settling of the case, producing an improper incisal length as in Fig. 19. It is better judgment to forewarn than to have the patient make a disagreeable discovery. It is likewise generally wiser to develop in the transitional case less than the maximum of esthetic features which will later be developed in the so-called permanent denture. If the color or form is slightly defective or if the gingival shrinkage causes some slight disfigurement, in many instances, it is wiser to make no alteration, but to hasten toward its completion. Occasionally the patient finds the transitional case so comfortable and secure that he develops an unwise desire to have it become "permanent," particularly if its appearance could not be improved.



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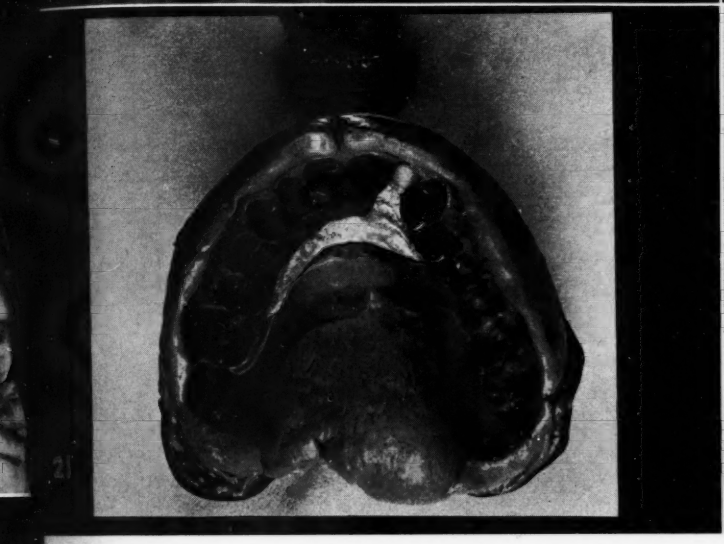


Fig. 11—Hooks of brass clipped from a small safety pin and contoured as shown in typical curvatures in lower part of illustration. Hooks were used as charted.

Fig. 12—Case partly waxed.

Fig. 13—Finished results with one of the newer denture materials. Note small size of saddle, permissible because of embrasure hooks.

Fig. 14—Case lying loose on model. Saddle shown here will be found far more comfortable than those with form shown in Figs. 4 and 22.

Fig. 15—Teeth before extraction of lateral incisor. (This and Fig. 16 were made from Kodachrome orginals.)

Fig. 16—Appliance seated immediately after extraction.

Fig. 17—Unsightly space at gum-line from shrinkage of gingiva.

Fig. 18—Condition of socket after shrinkage of gingiva.

Fig. 19—Improper incisal length as a result of settling of the partial denture.

Fig. 20—Mirror view of transitional partial denture in position.

Fig. 21—Partial denture seated in impression material. This is not a step in technique of construction. Shown merely for study of end-result. (Denture painted white to aid photography.) Visualize depth to which embrasure hooks extend to establish retention.

Fig. 22—Another case. Compare with Fig. 21. Here a larger type of saddle was used.

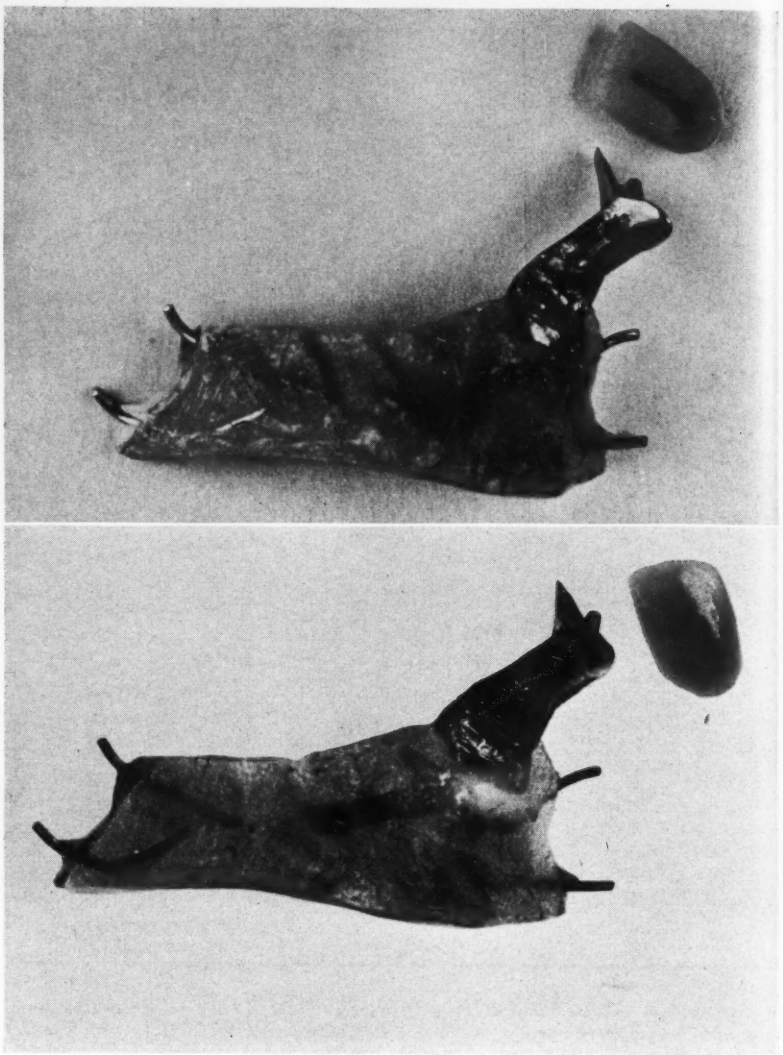
If the least possible disarrangement of the gingival crest is desired as an end-result, dress the porcelain to be free from gingival contact when at rest. The saddle will settle, and generally carry the porcelain up to contact. If the settling creates too much disfigurement, the original facing can be replaced with one newly fitted and quickly vulcanized to position.

A mirror view of a transitional partial denture in position is shown in Fig. 20. Such an appliance can well be used in the same arch with another partial denture. So as not to disturb the gold appliance, the transitional case is worn in addition to it until discarded on the seating of the anterior bridge. In Fig. 1 the outline of the denture being worn is shown. The second transitional appliance is placed in the same jaw without alteration to or connection with the first.

The photograph of the partial denture seated in the impression mate-

Fig. 23 (top)—Incised portion of saddle made of cast or swaged metal.

Fig. 24 (bottom)—Internal construction of short-bite case shown in Fig. 23. (Opaque denture viewed by transillumination, lying on x-ray viewing box.)



rial (Fig. 21) permits the study of the relation of the embrasure hooks and the interproximal spaces.

If the closeness of the bite does not permit the use of material with the thickness of vulcanite, the incised portion of the saddle can be made of cast or swaged metal, as in Fig. 23. The bulk of the saddle, however, must be of a springy material such as vulcanite or condensite to allow the embrasure hooks to snap to place.

In developing the embrasure hook, the use of a single hook instead of a pair on each side is not advocated. Just as a pair of fingers can be brought together to engage an object, so also can a pair of embrasure hooks be closed toward each other to engage more firmly an abutting tooth, thereby increasing the retention of the denture that has become loose. All appliances should be kept snug, and the patient's cooperation should be sought in this. The result of carrying through carefully the technique outlined will be a transitional appliance that can safely and comfortably solve many of the problems of what to do about missing upper incisors.

1836 *State Street.*

Clinical COMMENT

Nail Polish Used in Locating Interfering Contacts

E. S. ULSAVER, D.D.S. of New Rochelle, New York, suggests that nail polish is more convenient than carbon paper in locating contacts in artificial dentures which interfere with comfort or good balance. Carbon paper may register at many points at once, whereas the nail polish will register only where the contact is hard enough to grind through it.

The liquid nail polish is painted on the occlusal surfaces of both dentures. The dentures are placed in the mouth and the patient is asked to grind. Interfering contacts will wear through the polish and show white spots. The least possible amount of grinding is then done by the dentist at each white spot. The dentures are replaced in the mouth and the patient grinds them again to reveal new white spots. Again the operator grinds the spots and repaints the occlusal surfaces, replaces the dentures in the mouth for the patient to test again by grinding. This is repeated until the dentures are comfortable in centric relation and in balance in both directions.

When the dentures are satisfactory, the nail polish is removed by the use of steel wool or a wire brush.

Professional Building.

The Editor's Page

THREE SIGNIFICANT STORIES were carried in the evening papers of January twenty-third: (1) On that date President Roosevelt asked the Congress to consider carefully the proposed National Health Program which would cost 850 million dollars a year. (2) The Institute of Public Opinion announced that millions of Americans were interested in a method of paying for medical care under a new system of voluntary health insurance. (3) Senator Robert Wagner, the author of the Social Security Act, indicated that he would introduce a health insurance bill in the present session of Congress.

At this moment the agitation for a National Health Program has passed from the executive to the legislative branches of the government. Although representatives of the American Dental Association and the American Medical Association appeared before the Technical Committee to discuss the provisions of the National Health Program, it is unlikely that the opposition of the committees of the professional organizations to compulsory health insurance received more than casual attention. The people in the executive branch of the government and particularly the Technical Committee that drafted the National Health Program are inflexible in their support of the total plan, including compulsory health insurance.

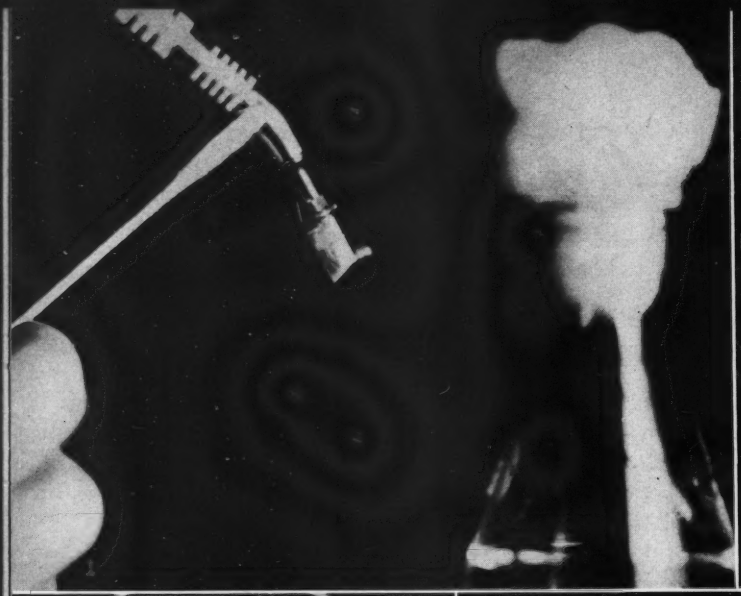
Following the message of the President, the subject is now before the Congress where there would seem to be a better opportunity to make changes in the provisions of the plan. In their present mood, the members of Congress are probably not anxious to establish another enormous bureaucracy in the American government unless the pressure groups are so powerful that the health measure will be jammed through Congress. There is unquestionably a terrific pressure, especially on the part of labor groups, to see that the National Health Program is accepted. Here and there throughout the country, regional committees under the auspices of organized labor have been formed to create sentiment for the complete adoption of the federal health program. These regional committees are urging their representatives and affiliated organizations to pass resolutions and begin deluging congressmen with telegrams and letters to support the health legislation.

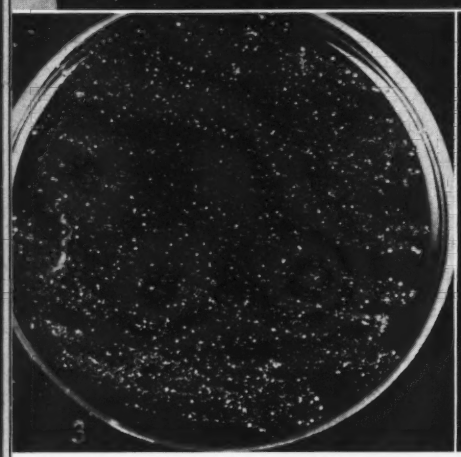
If, on one side, the millions of advocates of a National Health Program are articulate and active, and on the other, the few hundred thousand dentists and physicians and their ancillary groups are silent and timorous, the members of Congress will have the reaction that the demand for a National Health Program is a great upsurging of the people, spontaneous and real, without opposition from the medical groups.

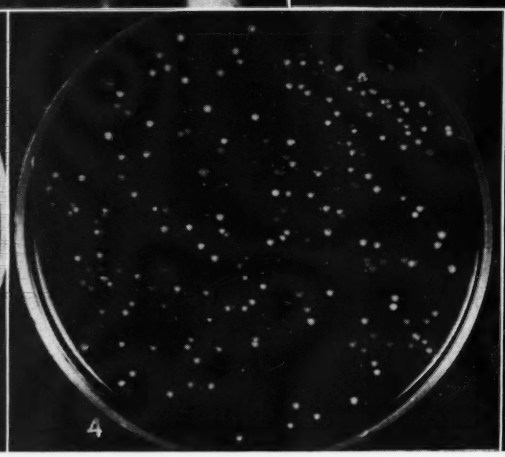
The American Institute of Public Opinion estimates that 25 million persons would be interested in a plan whereby they would pay three dollars each a month for medical and hospital care. Out of this premium of thirty-six dollars a year for voluntary health insurance, we presume that the amount would vary for dentistry from 12 per cent to 15 per cent of the medical dollar, which is the amount usually spent for dental care. That would mean that 25 million people would be willing to spend about five dollars each for dental care. This, we know, is not adequate, and that at best would represent a compromise with good scientific dental attention. Our job now is to tell the people what modern scientific dentistry is and to tell them what it will cost. It is a conspiracy against the American people to let them believe that proper and complete dental attention can be given for five dollars a year per person. This is the time to tell our side of the story before Congress. After legislation is enacted, it will be too late.

The New York Times, commented on the President's health message in these sober words:

"We must not forget that health is but one aspect of a far-reaching program of social security and that the Federal Government—with its budget badly unbalanced—is already committed to plans which will require the expenditure of funds on a constantly increasing scale for old-age annuities, unemployment insurance and other forms of social security. Care must be taken not to attempt too much at once, lest the whole system of Federal aid break down of its own weight. The national health is indeed 'a public concern', as the President says. So too is the nation's financial stability."







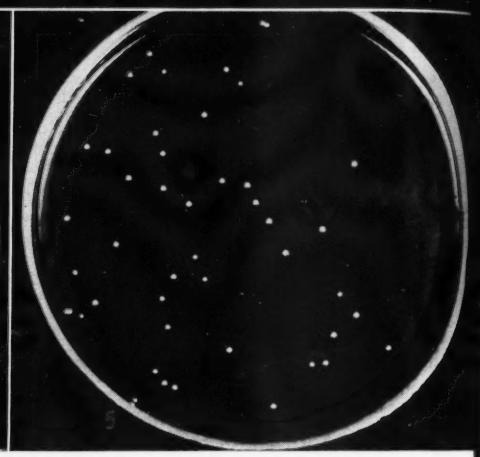


Fig. 1—Surface of handpiece being swabbed with sterile normal salt solution on long-handle sterilized cotton applicators. (A separate applicator was used for each handpiece.)

Fig. 2—Swab being rolled over surface of blood agar plate, following technique used for culturing throat swabs.

Fig. 3—Sample growth from combined straight and contra-angle handpiece. Average number of colonies per plate: 1,496 (ranging from a high of 5400 colonies to a low of 27 colonies per culture).

Figs. 4 and 5—Two sample cultures taken from samples remaining on handpieces overnight.

Maintaining Sterility of the Dental Handpiece

F. H. BIMROSE, D.D.S., Dillon, Montana

THE DIFFICULTIES ENCOUNTERED in maintaining an aseptic or even a clean handpiece in dental practice are well known to the dental profession. Because there has been no practical method for sterilizing the handpiece, this instrument has been neglected. Many dentists make no attempt to keep the handpiece clean, although they are conscientious in other details.

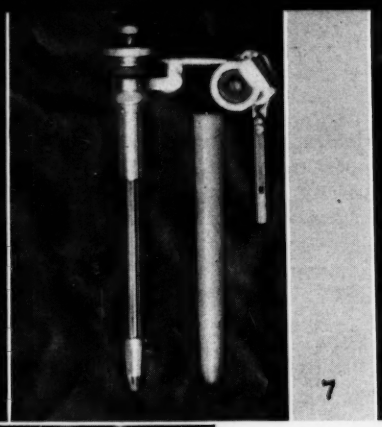
Method of Obtaining Cultures

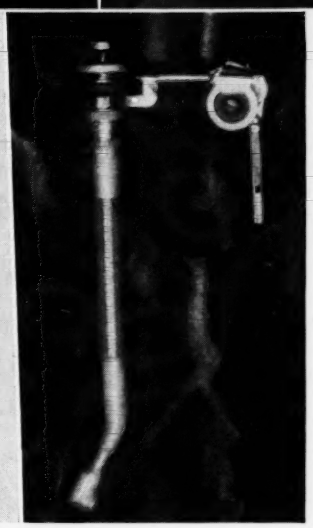
To determine what bacteria (which might be transmitted to succeeding patients) were on the handpiece at the completion of an appointment, bacterial cultures[1] were obtained from the handpiece as follows:

Within 5 to 15 minutes after the patient had been dismissed, the surface of the handpiece was swabbed with sterile, normal salt solution applied with long-handle cotton applicators that had been sterilized by autoclaving (Fig. 1). A separate applicator was used for each handpiece. Each swab was then carefully rolled over the surface of a blood agar plate, following the technique that is used for culturing throat swabs (Fig. 2). A series of ten cultures of the straight handpiece was made in this manner.

Another series of ten cultures was made from both the straight and contra-angle handpieces. As would be expected, the combined cultures of the straight and contra-angle handpieces exhibited many more bacteria than did those from the straight handpiece alone. This result probably

[1]Bacteriologic tests were conducted by the Department of Dental Pathology and Therapeutics of the University of Illinois College of Dentistry (Robert G. Kesel, D.D.S., M.S., Director).





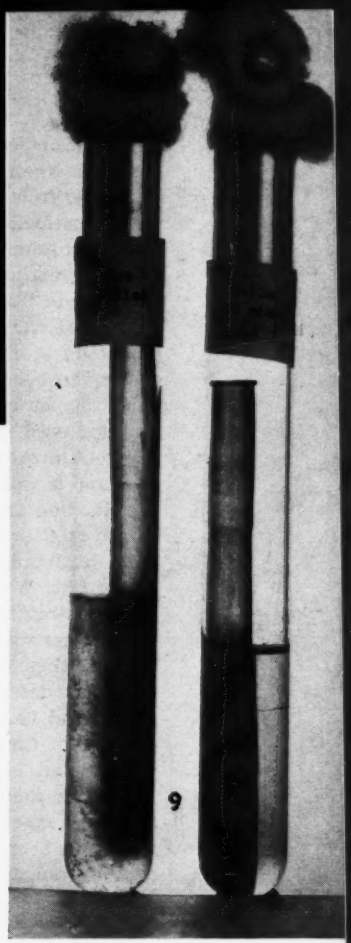


Fig. 6—Blood agar culture of a handpiece first washed with 70 per cent alcohol.

Figs. 7 and 8—Thin elastic coverings designed to fit the handpiece snugly and allow firm grip of instrument. Coverings are easily applied, removed, and sterilized.

Fig. 9—Two straight handpiece coverings used in same mouth the same length of time. Note: Left, heavy growth because covering was not boiled; right, clear medium, indicating sterility.

was due to the greater surface area present for contamination and culture; moreover, the contra-angle handpiece was used inside the mouth to a greater extent than the straight handpiece, and, therefore, was subject to greater contamination from the oral tissues and fluids.

Culture Counts and Type of Growth

Fig. 3 represents a sample growth from the combined straight and contra-angle handpiece. The average number of colonies per plate was estimated to be 1,496 ranging from a high of 5400 colonies to a low of 27 colonies per culture. Counts were made by means of a Frost Bacterial Colony Counter. The average number of colonies from the straight handpiece cultures was estimated to be 277 per culture. The types of organisms observed were those that are usually obtained by aerobic cultivation of the oral flora; no anaerobic cultures were attempted. The predominating bacteria were coccal in form—mainly, staphylococci and gram positive and negative diplococci. Some of the staphylococci showed complete hemolysis of the blood agar.

Cultures Taken from Handpieces Standing Overnight

In order to determine what effect standing overnight at room temperature might have on the handpiece flora, three combined straight and contra-angle instruments were wrapped separately in sterile towels and allowed to stand overnight. Cultures were taken from them the next morning between 16 and 17 hours after their last usage by the technique described. Despite the fact that many of the bacteria were mechanically removed by the first swabbing and that the handpieces were kept at room temperature and not in the incubator, cultures made the following day gave bacterial growth. Figs. 4 and 5 represent two cultures taken in this manner. The first is the growth resulting from the evening culture and the second from the next morning. The organisms are predominantly hemolytic staphylococci. The zone of hemolysis is not reproduced in the photograph because the lighting used was reflected rather than transmitted.

Dental Handpiece Spreads Infection: Methods of Sterilization

These results confirm the already recognized danger in the dental handpiece as a potential means of spreading infection. Appleton[2] reviews many of the methods that have been advocated to eliminate this danger and critically analyzes their merits and flaws.

There are possible deleterious effects of water on the mechanism of the instrument, which, of course, eliminates the advisability of boiling in water or autoclaving in live steam. Appleton, therefore, studied the possibility of effecting chemical sterilization with anhydrous fluids. These studies convinced Appleton that it was virtually impossible to accomplish chemical disinfection if the germicidal solvent did not contain water. Thermal energy was required

[2]Appleton, J. L. T., Jr.: Sterilization of Dental Handpiece, D. Cosmos, 66:861-877, 1924.

in addition to the germicide to kill bacteria when the sterilizing medium was free from water. The method of choice seemed to be complete immersion in a mineral oil bath at temperatures ranging from 165° C. for 15 minutes to 185° C. for 5 minutes.

One of the methods reviewed by Appleton is that of sponging off the handpiece between appointments with 70 per cent alcohol. This is a method used in many dental offices. He recognizes the fact that such a method is not efficient for surface sterilization and that it does not begin to care for the contamination inside the handpiece which is equally important. We swabbed three combined straight and contra-angle handpieces with 70 per cent alcohol, allowed them to dry, and then cultured as described. This procedure was found to reduce materially the number of organisms obtainable for culture, but in no instance was the handpiece found to be sterile. Fig. 6 is a blood agar culture of a handpiece that had been washed with 70 per cent alcohol.

Removable Covering for Handpiece

The need was recognized for a simple, efficient method of protecting the handpiece from contamination and the patient from possible infection. A thin elastic covering which could be easily applied, removed, and sterilized, it was thought, might solve the problem. Different materials and designs were used with the eventual development of the types illustrated in Figs. 7 and 8. This design permits the covering to fit the handpiece snugly, which together with its thinness and rubberoid quality, allows a firm grip of the instrument. The opening in the end which admits the bur, has a diameter less than the bur, so that the covering tends to seal the end of the handpiece to the ingress of saliva or abrasive materials. Bacteriologic tests will be mentioned to support this contention. The marked elasticity of the material permits its ready application and gives it durability. Also, the material permits boiling many times without deterioration.

Experiment: Boiling Handpiece Covering

Fig. 9 shows two straight handpiece coverings which were used in the same mouth the same length of time. They were purposely allowed to contact the mucous membranes. The one on the right was boiled for ten minutes and then placed in a tube of semi-solid glucose agar advocated by U. G. Rickert for root canal culturing.[3] The one on the left was not boiled, but was immediately placed in a tube of the medium. The heavy growth of bacteria around the covering in this tube is readily apparent; whereas the medium in the other tube is clean, indicating sterility.

Experiment: Testing Seal Around Bur

The following experiment was conducted to test the seal of the covering around the bur:

1. A straight handpiece, a covering, and two dental burs were sterilized by autoclaving.

2. The covering was then carefully placed over the handpiece, a bit of sterile vaseline was placed over the bur opening to lubricate the rubber surface where it contacts the rapidly revolving bur, and one of the sterile burs was inserted into the handpiece with sterile forceps.

3. This bur was immediately removed and placed in a sterile petri dish. It served as a control on the internal sterility of the handpiece.

4. Then the other sterile bur was inserted and locked in place.

5. The exposed portion of the bur and the tip of the covered handpiece were immersed in freshly collected saliva in a small beaker and the bur was rotated by the engine at full speed for one minute.

6. The exposed surface of the bur and the handpiece covering were dried with a jet of air.

7. The rubber covering was carefully removed from the handpiece, and the bur removed and placed in the petri dish alongside of the control bur.

8. Melted glucose agar cooled to 40° C. was carefully poured over the two burs and the medium allowed to set.

9. The dish was then incubated for 48 hours.

A bacterial growth developed around that portion of the bur that had been exposed to the saliva, but not beyond the line indicating the portion of the shank that had been under the protective covering. The control bur showed no growth. These burs indicated that the saliva had no tendency to crawl up the rapidly rotating bur beneath the covering and into the handpiece.

Summary

1. The sterilization of the dental handpiece has been a baffling problem needing solution.

2. The dental profession recognizes this need, and, bacterial cultures prove it exists.

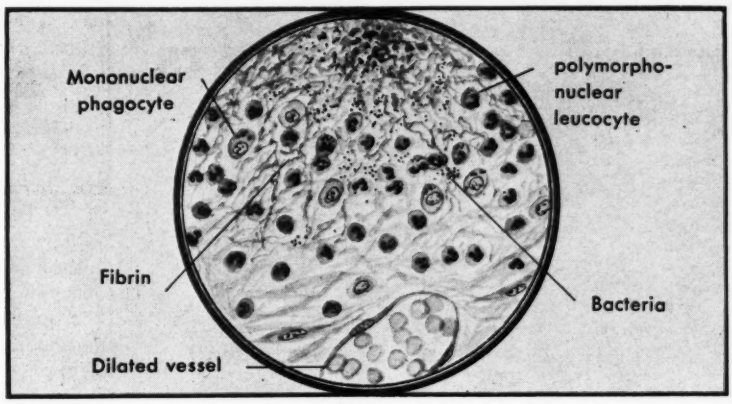
3. The impossibility of sterilizing the handpiece itself, suggests the desirability of a sterilizable covering which will protect the inside and the outside of the handpiece alike.

4. A simple, inexpensive, durable covering is described, which can be removed and sterilized.

5. The covering advocated and described here provides a seal that prevents damage to the mechanism of the handpiece which would result from the penetration of gritty materials, such as are used in polishing agents.

[3]Hadley, F. H. and Rickert, U. G.: Studies on the Etiology of Root-Canal Infections. D. Cosmos. 69:665-678 (July) 1927.

BARRIERS AGAINST SYSTEMIC INVASION FROM ORAL FOCI—NO. 1



INFLAMMATION brings a multitude of phagocytes to the site of infection to destroy pathogenic organisms and attempt to check their spread. Bacteria, however, frequently overcome the natural defensive forces and, if the body's resistance is low, may invade the entire system.

Colonic Hygiene

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Any dental plate held tighter by FASTEETH leads to keener eating enjoyment and social pleasure.
Send 10c to FASTEETH, Inc., Binghamton, N. Y., for trial size of FASTEETH and KLEENTEETH—new special plate cleaner.
ORIGINAL ALKALINE PLATE POWDER

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NOTES ON THE *Cuff*

January 2: The fire greys to ashes on the hearth. The skates and skis and toboggan are put away for other days. It is time to return to the city after the holiday in the country, free from telephones, free from problems, free from issues. Below the hills a river winds and pine trees grow steadily in the rock. Here there is no hurry; there are no pounding gavels, no fingers wagging emphasis in one's face. Here the excited radio announcers cannot urge to action nor to purchase. There are supplies in the cupboard, hickory and oak in the woodbox, water in the well. Here no one listens about the gadgets and fancy victuals that a paid exhorter pleads to sell. There is time for reflection and there is time to listen to farm-hands. Lin Yutang is right when he says that in *The Importance of Living* it is necessary to take this time to feel the soil. But this Chinese critic of America forgets that "New York (or San Francisco or Chicago) is not America." He forgets the American peasantry and open spaces in his wistful philosophizing over the Chinese coolie.

It is good, at this New Year, to question and to ask, "What's the hurry? Is it important? Who says so? And what if he does? So what?" If we can realize how unimportant the answers to these questions are, perhaps we can build a way of living less annoying to others and to ourselves. In our hurry, we work everyone into a lather, shouting and squirming and gesticulating. When we arrive, we find that something was forgotten or it wasn't important anyway. What is important varies from minute to minute and is altered by digestion and the quality of sleep and muscle tone. Things are important only from the point where we stand to observe them; they are not inherently important, separately and detached from the whole.

Who says so? On what authority do we accept opinions? Was the pontifical one who speaks present at the event? If so, does he see straight and

record accurately? How can you tell? And even if he does, it is only his opinion anyway. Does the one who speaks have prejudices to be bolstered and private propagandas to foster? Finally, so what? Our angers are fleeting; our enthusiasms grow cold; headlines read avidly today will be disregarded tomorrow; last night's dissipation is today's headache—all this, I will try to remember when an urgent letter or telegram or an insistent exhorter comes asking that something be done right now, this minute, this second. It is a poor executive, I suppose, who can't snap decisions with finality but I would rather be a judicious than an efficient executive.

When someone thrusts at me that his technique for making an inlay; that his method for reaming a root canal; that the little bumps and swellings that he adds to his dentures are important, I hope I can remember to ask, "Why? What have you done that no one has done before and even if you have, does it make much difference anyway? Is it worth a malignant hypertension on your part?" And for him who says "statistics show" and "authorities are agreed," I shall have a list like that of the Lord High Executioner of the *Mikado,* for I, too, "have a wish sublime . . . to make the punishment fit the crime." I shall be crude enough to ask to see the statistics and to hear the authority speak. Finally, for all the fervent plans and for all the intense opinions of my own and others, I am going to keep on saying, "So what?"

January 9: The impact of European distress is felt on all levels of the population. When it comes to members of our own profession, we are probably better able to comprehend the terrors of the autumn of 1938. Here is a letter from a Viennese dentist, now a refugee in Jugoslavia:

"In an uncustomary but today excusable manner, I am addressing myself to you, asking you to help me find a position in America.

"I am a Vienna dentist who had to leave his country just as a hundred thousand others, for political and religious reasons, and am today compelled to look after a new way of living. As an Austrian dentist (I have not studied medicine and have no doctor title, but have according to the Austrian Law the right to extract teeth, to fill them, etc., as I am according to the said Laws a Dentist

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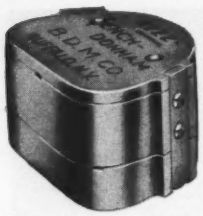

UPPER, Long Guides

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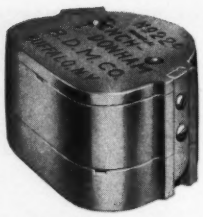

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Prices, All Styles, Bronze $5.00

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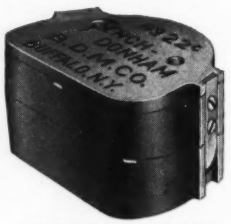
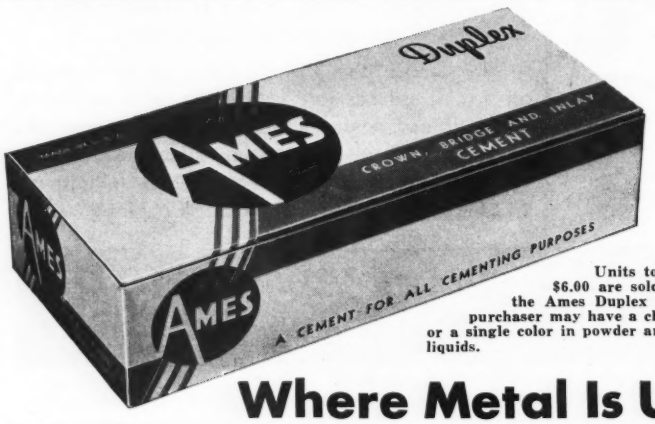


LOWER, Short Guides



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Ames Cement adheres to tooth and metal surfaces better because it is made from materials and by processes that provide this very necessary quality in fullest measure. **The W. V-B. Ames Company, Fremont, Ohio.**

AMES DENTAL CEMENTS

having made all the necessary studies and examinations), I had through 18 years my own practice which was in Vienna one of the best and most frequented and I employed up to the last moment 6 employees. In filling and extracting of teeth, as well as in all other work in the mouth of patients, I am a first class and quick worker and am sure that considering my experience and professional and commercial knowledge, I would be in the position to enlarge the turnover of a halfway lively practice.

"I possess an affidavit and have the prospect to sail for America in a few months' time and would be, therefore, much obliged to you if you would kindly by means of a suitable advertisement in your papers try to find whether there would be anyone who would be willing to accept my services.

"As I have already mentioned, I believe I would be able through my experience and professional knowledge to enlarge a halfway lively practice, and for this reason I would be willing to work on a commission basis only and without a fixed salary.

"I am 45 years of age, absolutely healthy and capable of working. I would be obliged to you if you would not, dear Sir, throw away this letter in your wastepaper basket but think it over, as I am sure that you will be able without much trouble and expenditure to help me in my looking for a new living. If there is no other possibility, could I be employed as a dental assistant?

"I beg to remark that for the moment my English is not sufficient, but I am learning intensively to enlarge my knowledge in this respect.

"Please excuse my troubling you and I sincerely hope that I will hear from you favorable news and that I shall have the occasion later on to thank you personally for your good will and kind helping hand."

If any readers are interested in the situation of this man and would like his name and address, the information will be sent on request.

January 19: For nearly fifty years, Donald Mackay Gallie has been an irrepressible force in dental life. His vitality, his robustness, his devotion to dentistry are known throughout the world. Tonight, as the guest speaker before the Chicago Dental Assistants Association, Don Gallie proposed a toast to the United States.

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Dr. KELLY'S Impression Paste

He suggests that before every meeting we begin with the invocation, "Thank God that we live in a country where we can meet where we choose; where assembly is denied no one; where we can speak our piece as critically as we wish of anyone or any institution, being confined only by the laws of slander and decency; where we can publish what and where we choose without fear of reprisals and restraints." We cannot forget that the repression of any group by authoritarianism means repression in time of every group. Dentists, dental societies are certainly minority groups and once the metal heel of restraint descends upon any group, it will be reflected in time upon every other. Science itself cannot live in the absence of free assembly, free debate, and free publication.

In the past, some of us have been afraid of being called flag-wavers, sentimentalists, chauvinists. The time, it seems, has come to show our devotion openly to the American ideal and to be alert to the destroyers from within the country and from without. —E. J. R.

DENTAL MEETING *Dates*

Five State Post Graduate Clinic, eighth annual meeting, Mayflower Hotel, Washington, D.C., March 5-9.

•

American Association of Orthodontists, thirty-seventh annual meeting, Kansas City, Missouri, April 17-20.

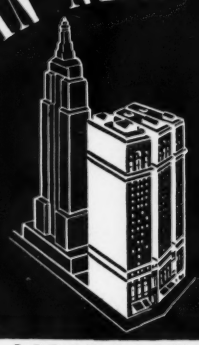
•

New Jersey State Dental Society, annual meeting, Ambassador Hotel, Atlantic City, April 19-21.

•

Pennsylvania State Dental Society, seventy-first annual meeting, Yorktowne Hotel, York, Pennsylvania, May 2-4.

IN NEW YORK



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